

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/002219

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 F04B35/00 F03G7/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F04B F03G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 344 911 A (KIMBALL C.M.) 6 July 1886 (1886-07-06) the whole document -----	1-17
X	US 4 173 431 A (SMITH ROLAND L) 6 November 1979 (1979-11-06) the whole document -----	1-17
X	US 1 771 200 A (BALARD AKERS OSCAR) 22 July 1930 (1930-07-22) the whole document -----	1-17
X	US 4 212 598 A (BANKS STANLEY E ET AL) 15 July 1980 (1980-07-15) the whole document ----- -----	1-17
		-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
28 September 2004	06/10/2004
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Ingebrecht, P

INTERNATIONAL SEARCH REPORT

International Application No
WO/IB2004/002219

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 290 115 A (NAKATSU SENKICHI) 13 December 1995 (1995-12-13) the whole document -----	1-17
X	US 6 204 568 B1 (RUNNER JOHN) 20 March 2001 (2001-03-20) the whole document -----	1-17
X	US 5 355 674 A (ROSENBERG BARUCH) 18 October 1994 (1994-10-18) the whole document -----	1-17
X	DE 29 41 079 A (ZIMMER CORNELIUS P) 23 April 1981 (1981-04-23) the whole document -----	1-17

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No	
PCT/IB2004/002219	

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
US 344911	A	NONE		
US 4173431	A	06-11-1979	US US	4115034 A 4160624 A 19-09-1978 10-07-1979
US 1771200	A	22-07-1930	NONE	
US 4212598	A	15-07-1980	NONE	
GB 2290115	A	13-12-1995	JP	8003905 A 09-01-1996
US 6204568	B1	20-03-2001	NONE	
US 5355674	A	18-10-1994	AU BR DE WO EP ES JP RU	8509291 A 9106873 A 69111244 D1 9205366 A1 0548147 A1 2076545 T3 6500610 T 2063548 C1 15-04-1992 06-07-1993 17-08-1995 02-04-1992 30-06-1993 01-11-1995 20-01-1994 10-07-1996
DE 2941079	A	23-04-1981	DE	2941079 A1 23-04-1981